REMARKS

The Office Action of February 6, 2009 presents the examination of claims 1-19. All of claims 1-19 remain pending. Claims 2 and 11 are deemed allowable if rewritten into independent form.

Claim 1 is amended herein to clarify the structure of the claimed material.

Support for the amendment to claim 1 is provided by the specification at least at page 4, lines 28-29, page 7, line 31 to page 8, line 16 and page 12, lines 14-18 of the present specification.

Claim 10 is amended to clarify the steps of the claimed process, also a result commensurate with the preamble now concludes the claim.

Claims 11 and 14-16 are amended to clarify at what point in the process the width of patterned lines is determined.

Rejection over prior art

Claims 1-19 are rejected under 35 USC § 102(b)/103(a) as being unpatentable over JP '745. This rejection is respectfully traversed. Reconsideration and withdrawal thereof are requested.

JP 42-23745-B cited in the outstanding Office Action was filed by one of the Assignees of the present application. JP '745 relates to a method for producing a thin-film resistant material.

The portion pointed out by the Examiner describes catalytic nuclei to obtain a transferred image by the silver complex salt diffusion transfer method (DTR method). The thin-film resistant material of the reference has a "reduced silver" on the "catalytic nucleus", transferred by the silver complex salt diffusion transfer method. The silver complex salt diffusion transfer method (DTR method) is a method in which a resistant thin-film is obtained by the principle disclosed in U.S. Patent No. 2,352,014. This Patent is listed in an Information Disclosure Statement filed concurrently with this paper.

The Examiner should note that Comparative sample 1 mentioned on page 14, line 5 to page 15, line 1 of the present specification corresponds to the thin-film resistant material of JP 42-23745-B. This is explained in detail below.

A "catalytic nucleus" is provided on a support and a silver halide emulsion layer are physically developed in an alkaline developer into which a soluble silver complex salt forming agent has been dissolved in a state as shown in the following drawings. Fig. A is a schematic drawing showing an embodiment in which the procedure is carried out with a 2 sheet type (overlapping of a sheet 1 having catalytic nucleus and a sheet 2 having a silver halide emulsion layer which has already been exposed). Fig. B is a schematic drawing showing an embodiment in which the procedure is carried out with a mono-sheet type (an already exposed sheet providing a silver halide emulsion layer on catalytic nucleus); this embodiment corresponds to the pending process of Claim 10.

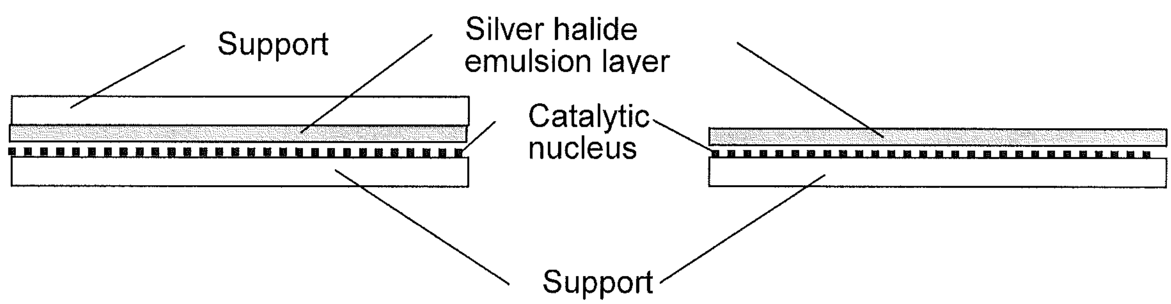

Fig. A **Fig. B**

Next, by referring to the embodiment of the above-mentioned Fig. B as an example, the principle of precipitating the reduced silver is explained with reference to Fig. C and Fig. D.

In Fig. C, silver halide particles existing in the exposed portion are reduced by an alkaline developer and change to metal silver in the silver halide emulsion layer (shown as black rhombus in Fig. C) that is not dissolved with a soluble silver complex salt forming agent in the developer . Accordingly, on the "catalytic nucleus" of the exposed portion, no reduced silver is precipitated.

On the other hand, silver halide particles existing in the unexposed portion are dissolved (complexed) by the soluble silver complex salt forming agent contained in the developer, and diffuse from the silver halide emulsion layer to precipitate ("transcript") on the "catalytic nucleus" as reduced silver (shown as the dense square in Fig. C).

After that, by removing the silver halide emulsion layer containing metal silver with a means such as washing, etc., reduced silver having an exposed pattern can be obtained (Fig. D). Incidentally, in the case of the 2 sheet embodiment of Fig. A, by peeling apart the respective sheets after development, reduced silver having an exposed pattern shown in Fig. D can be obtained.

The thin-film resistant material of the cited reference comprises two constitutions of a "catalytic nucleus" and "reduced silver" on a support, similar to Fig. D.

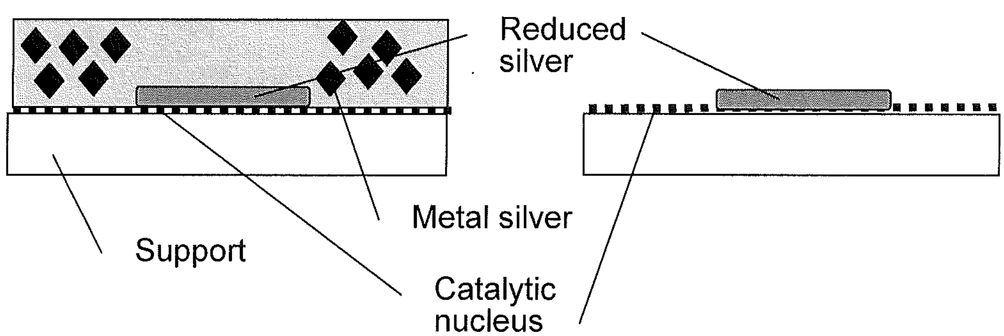

Fig. C **Fig. D**

To the contrary, the electromagnetic wave shielding material defined in pending claim 1 comprises, on a transparent support, two constitutional components of a "metal silver" obtained by physical development (an example which is the silver complex salt diffusion transfer method described above), and a "metal film" formed by using the above metal silver as a catalytic nucleus. If one has obtained a "metal silver" by physical development, "physically developed nuclei" must be present between the "metal silver" and the transparent support.

Accordingly, the electromagnetic wave shielding material of the present invention comprises three constitutional components: "physically developed nuclei", a "physically

developed silver thin film" obtained by physical development, and a "metal film" obtained by using the silver thin film as catalytic nuclei. A schematic drawing of the electro-magnetic wave shielding material of the present application is shown in the following Fig. E.

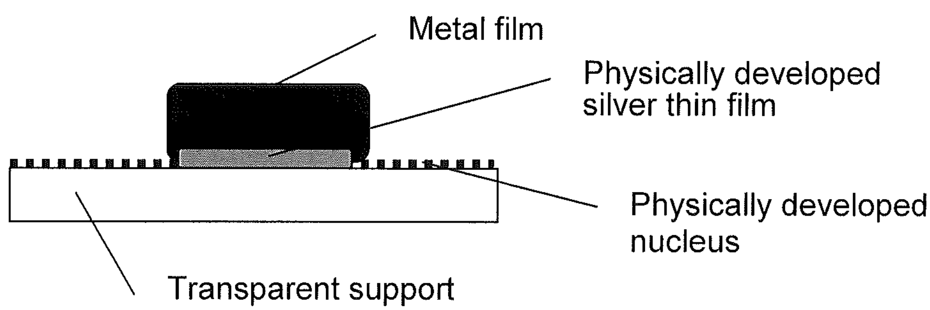

Fig. E

When the constitutions of the material disclosed in the cited reference and the material of the present application are compared to each other, the "catalytic nuclei" of the reference correspond to "physically developed nuclei" of the present application, and the "reduced silver" of the reference corresponds to the "physically developed silver thin film" of the present application. However, there is neither description in the reference about a layer corresponding to the "metal film" of the present application, nor a method for providing any layer corresponding such a "metal film".

Accordingly, the JP '745 reference fails to disclose or suggest at least one feature of the present invention and so fails to anticipate or render obvious the presently claimed invention. The instant rejection should be withdrawn for at least this reason.

Furthermore, the present invention provides a result that is not expected by one of ordinary skill in the art who reads JP '745. This provides objective evidence of unobviousness of the invention sufficient to rebut any case of *prima facie* obviousness thought to be established by the reference.

Page 11, lines 9 to 35 of the present specification discloses that "a fine line pattern is provided on a transparent substrate with a total luminous transmittance of 70 to 90% or so, it is difficult for the physically developed silver with an optional fine line pattern formed on a

transparent substrate alone to satisfy both of the light transmittance of a total luminous transmittance of 50% or higher and the conductivity of a surface resistance of 10 ohm/□ or less simultaneously. The reason is that this physically developed silver has the conductivity of a surface specific resistance of 50 ohm/□ or less, preferably 20 ohm/□ or less, and when it was made a total luminous transmittance of 50% or higher with a fine line width of 40 μm or less, for example, with a pattern of a fine line width of 20 μm, the surface resistance becomes several hundreds ohm/□ to several thousands ohm/□ or higher. However, this physically developed silver itself has conductivity since a firm silver image has been formed. Thus, when such a fine line pattern having a thickness of 15 μm or less and a line width of 40 μm or less is provided on a transparent substrate with a total luminous transmittance of 70 to 90% or so by applying plating using a metal such as copper or nickel, especially applying electrolytic plating, the resulting material has the conductivity of a surface resistance of 10 ohm/□ or less, preferably 7 ohm/□ or less to 0.001 ohm/□ even when the light transmittance thereof is a total luminous transmittance of 50% or higher, preferably 60% or higher."

The inventors of the present application have found an electromagnetic wave shielding material having both of a good light-transmitting property and good electro-magnetic wave shielding property, and a method for preparing the same. In the examples of the present application, when no "metal film" is provided like Comparative sample 1, a good light-transmitting property can be obtained but sufficient electromagnetic wave shielding property cannot be obtained. This is clearly described on page 14, line 5 to page 15, line 11 of the present specification. On the other hand, by providing a "metal film" onto the "physically developed silver thin film" as mentioned on page 15, lines 12 to 26 of the present specification, an electromagnetic wave shielding material with both of good light-transmitting property (luminous transmittance) and sufficient electromagnetic wave shielding property is obtained.

The thin-film resistant material disclosed in the cited reference which is actually and exactly the same as "Comparative sample 1" mentioned on pages 14 and 15 of the present specification has a total luminous transmittance of 76% and a surface resistance value of 850 ohm/□ as mentioned on page 15, lines 1 and 4 of the same. This sample had a shielding property

of 27 dB at 500 MHz and of 23 dB at 1,000 MHz as mentioned on page 15, lines 5-6 of the same.

When a metal film is formed on the physically developed silver thin film of Comparative sample 1 by electrolytic plating as described on page 15, lines 12-19 of the present specification, the resulting material has a total luminous transmittance of 73% and a surface resistance value of 0.5 ohm/□ as mentioned on page 15, lines 23 and 24 of the same. The sample of the present invention had a shielding property of 56 dB at 500 MHz and of 63 dB at 1,000 MHz which are much higher than those of the Comparative sample 1 as mentioned on page 15, lines 25-26 of the same.

Applicants submit that the above results are not expected by one of ordinary skill in the art who reads JP '745. Thus, the present invention is unobvious over this reference and the instant rejection should be withdrawn for this additional reason.

Applicants submit that the present claims are free of the prior art. The favorable actions of withdrawal of the standing rejection and allowance of the claims are requested.

If there are any minor issues remaining that can be addressed by a conversation, the Examiner is invited to contact the undersigned, at the telephone number below, to discuss the matter.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Dated: June 3, 2009

Respectfully submitted,

By [signature]

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